MILLENNIUM
COMMUNICATIONS GROUP INC.

One Point of Contact.
Endless Possibilities.

SPIN - 143007785
Federal GSA - GS-35F-0220R
NJ WSCA 87720
NJ State Wiring 88740
HCESC TEC #06
Passaic County Co-Op 38PCCP
PEPPM

May 23rd, 2016
Boonton School District
434 Lathrop Ave
Boonton, NJ 07005
Attn: Sean Cuskey

RE: Form 470 Application Number: 160045414

Dear Sean,

Thank you for allowing Millennium Communications Group Inc. (MCG) the opportunity to provide Boonton School District with pricing to implement a Private Fiber Optic network. Please review the below for further detail and pricing.

Executive Summary

Schedule A – Matrix Design Group Engineering & Design	
Engineering & Design Services Subtotal	$14,756.00
Schedule B – Fiber Optic Connectivity	
OSP/ISP Integration & Fiber Cost Subtotal	$31,371.50
Project Total	**$46,127.50***
Total Miles	**0.41**

Note: Reoccurring costs such as pole rental and leasing options not included
**Project may be subject to additional third party costs see schedule B.*

All work detailed in this document is based on preliminary site visits conducted prior to establishing a comprehensive engineering package and, as such, contains several assumptions which could affect the final actual cost. MCG is confident that, if given the opportunity to provide any or all services listed, the project can be value engineered to provide Boonton School District the most cost effective solution possible to fit your budget. If there is anything further that I can help you with, or if you have any additional questions, please feel free to reach out to me by telephone at (973) 929.2555 and by email at lcassel@millenniuminc.com. I look forward to a long-standing relationship with you and the Boonton School District.

Sincerely,
Lauren Cassel
Business Development

Schedule A – Matrix Design Group Engineering & Design

MCG will be enlisting the engineering services of their subsidiary, Matrix Design Group (MDG), for this project. MDG proposes to provide all engineering and design services to Boonton School District with 12 count single mode fiber optic cables as part of the integration of their Wide Area Network. The following is the anticipated Scope of Work for Engineering/Design services for the duration of the project.

Engineering & Design Services:

- Perform ISP /OSP design walkouts and measurements
- Prepare strand maps
- Prepare ISP/OSP construction drawings
- Prepare splice and termination details
- Furnish "As-built" drawings

Exclusions / Assumptions:

- Environmental permitting/studies are not included
- Project management, pre/post construction meetings and inspection services are not included
- All permit fees to be paid by Boonton School District
- Municipal and county permits for trench installation to be submitted by contractor
- "As-built" drawings to be prepared from contractor red-lined construction drawings

Engineering & Design Subtotal: $14,756.00

Schedule B – Fiber Optic Connectivity

OSP/ISP Integration

MCG will furnish and install the 12 count single mode fiber optic cable necessary to construct a private fiber optic network for Boonton School District. The installation will consist of furnishing the aerial support strand with hardware and the fiber optic cable necessary to build the network which will be run to the above mentioned locations. As part of this portion of the installation the appropriate slack loop locations, building core drills, EMT construction, and inner duct replacement will take place.

Fiber Optic Cable Splicing (F.O.C.)

Once all fiber is in place, MCG will perform a reel test to make sure there is no damaged cable prior to splicing and termination, at which point OSP splice enclosures will be installed along with ISP splice termination shelves. The newly installed fiber optic cable will then be prepped, spliced, and tested. The fibers will be tested with an OTDR to confirm a proper connection, ensuring there are no major losses affecting the fiber speeds. All test results and associated findings will be documented and given to Boonton School District.

OSP/ISP Integration & Fiber Cost Subtotal: $31,371.50

Additional Network Costs

These are third party cost ***estimates*** based on networks recently completed and performed by others.

Utility Make-Ready Subtotal: $11,562.50
(Due to precedent set by other projects make-ready costs may be lowered and or eliminated)

Traffic Control Subtotal: $2,700.00
(To be performed by local Police Department – cost subject to towns discretion)

Private Fiber Network Benefits:

- The ***return on investment*** in owning the fiber network is ***typically less than 5 years*** in comparison to paying monthly service charges to service providers to lease the fiber network.
- Private fiber networks provide you ***unlimited network bandwidth without an additional cost*** which is not the case with a leased lit fiber from a service provider.
- Private fiber networks **allow distance-learning and also support voice-over IP phones**; VOIP allows schools to talk back and forth without any fees and also offers the security of better communications.
- A private fiber network can also help extend into installing ***IP-addressable security cameras*** in schools, offering administrators and superintendents' log-in access via any internet-connected computer, to view what is happening in real time.
- A private fiber network can also ***improve a districts data and record systems*** by consolidating servers that can make it easier for IT staff to manage.
- Private fiber networks let schools look towards the future and are able to help expand in the technology space to ***enhance and advance school districts***.

Why Fiber Optics?

- **Security-** fiber is the MOST secure network.
- **Speed-** fastest medium for data transport and retrieval.
- **Durable-** because fiber carries light and not electricity it can hold up in any change of weather.
- **Green –** Fiber is good for the environment because they require lower amount of energy than copper cables.
- **Thinner –** fiber is thinner and smaller, fewer data interruption and unsightly wires.

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Executive Summary

Millennium Communications Group Inc. provides advanced communication infrastructures utilizing fiber optics and integrated technology solutions across the public and private sectors. We will develop a technology solution that addresses key business challenges, leverages emerging technologies, and enhances operational efficiencies. We eliminate the need for multiple vendors and contractors by handling every aspect of building your network. From preliminary budgeting and design, to building and final acceptance, we provide a full end-to-end solution that will meet and exceed your needs. From planning to perfection, we are your single point of contact for endless possibilities.

For Schools:

Millenniums school solutions use fiber based solutions to create an ideal learning environment for students and staff. With our expertise and forwarding thinking we can create a solutions package that will allow your organization to grow into the future.

For Businesses:

Millennium's business solutions combine fiber optic infrastructures with innovative networking equipment. We design technology solution to address your key business challenges and reduce your overall costs, while enhancing operational efficiencies.

State and Local Government:

Millenniums first began in the state and local government space making us very well versed in what solutions will enhance and protect your community. We specialize in the design, deployment, and maintenance of communication networks for state and local government. We offer broad IT and Security solutions that combine fiber optic infrastructures with innovative networking equipment. We understand how to keep operations, expansion and flexibility at the heart of our designs.

Vision:

Our vision is nothing less than providing the most advanced telecommunication networks – working to close the connectivity gap across the nation – steering our communities into the future creating a new era of development, growth, and productivity.

Values:

1. Be leaders and experts in the telecommunication field.
2. Have passion for our work.
3. Learn. Educate. Innovate.
4. Build greatness.
5. Connect the future.
6. Build a positive, family spirited team.
7. Collaborate for a better future.
8. Be innovative.
9. Deliver quality service.
10. Add value for our customers.
11. Have respect and humility.

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School References

Ewing Board of Education

Contacts: Lai-Kuang Tang, Director of Technology
(609) 538-9800 Ext. 7117
ktang@ewingboe.org

Project Description: Design/build of a 9.71 mile Private Fiber Network throughout the Township of Ewing and parts of Trenton. The project connected (5) Board of Education buildings. The scope of work also included strand mapping, splice designs and as-built documentation. All work was completed using in-house labor.

Moorestown Board of Education

Contacts: Jeffrey Arey, Director of Technology
jarey@mtps.com

Project Description: The design/build of a 12.12 mile Private Fiber Network, throughout the Township of Moorestown. The project connected (7) Board of Education buildings and (4) municipal buildings. The scope of work also included ISP drawings, strand mapping, splice designs and as-built documentation. All work was completed using in-house labor.

Franklin Lakes Board of Education

Contacts: Bridget Pastenkos, Director of Technology
(201) 891-1856 ext. 232
BPastenkos@franklinlakes.k12.nj.us

Project Description: Design/build of a 5.99 mile Private Fiber Network, throughout the Township of Franklin Lakes. The project connected (4) Board of Education buildings including the Town Hall for future connectivity. The scope of work also included ISP drawings, strand mapping, splice designs and as-built documentation. All work was completed using in-house labor.

Wallington Board of Education

Contact: Vito D'Amelio
973-777-808 . 125
damelio@wboe.org

Project Description: Design/build of a .84 mile Private Fiber Network, throughout the Township of Wallington. The project connected (3) Board of Education buildings. The scope of work also included ISP drawings, strand mapping, splice designs and as-built documentation. All work was completed using in-house labor.

Neptune Board of Education

Contacts: Peter Leonard
(732) 776-2000

Project Description: The design/build of an 8.3 mile Private Fiber Network, throughout the Township of Neptune. Project connected (11) Board of Education and Township buildings. The scope of work also included ISP drawings, strand mapping, splice designs and as-built documentation. All work was completed using in-house labor.

Ridgewood Board of Education

Contacts: Serhiy Morhun
smorhun@ridgewood.k12.nj.us

Project Description: The design/build of a 10.2 mile Private Fiber Optic Network throughout the Township of Ridgewood. Project connected (11) buildings from the Board of Education with a 144 count fiber ring providing ensuring the capability of future expansion. Additional tasks in the scope of work included ISP drawings, strand mapping, splice designs and as-built documentation. All work was completed using in-house labor.

Glassboro Township

Contacts: BOE - George Weeks
(856) 652-2700 ext. 76615
gweeks@glassboroschools.us

Project Description: The design/build of an 8.6 mile Private Fiber Network, throughout the Township of Glassboro. The project provided connectivity between (12) Municipal, Board of Education and Rowan University facilities. A 288 fiber backbone in a ring configuration provided diversity for all buildings. The scope of work also included ISP drawings, strand mapping, splice designs and as-built documentation. All work was completed using in-house labor.

New Milford Board of Education

Contacts: Ron Watson, Director of Technology
(201) 261-2952 ext. 1220
Rwatson@newmilfordschools.org

Project Description: The design/build of a 2.53 mile Private Fiber Network, throughout the Township of New Milford. The project connected (4) Board of Education facilities. The scope of work also

included ISP drawings, strand mapping, splice designs and as-built documentation. All work was completed using in-house labor.

Rutherford Board of Education

Contacts: Barbara O'Donnell, Director of Technology
(201) 438-7675 ext. 105
bodo@rutherfordschools.org

Project Description: Design/build of a 4.53 mile Private Fiber Network, throughout the Township of Rutherford. The Project provided connectivity for (7) school facilities back to the Board of Education building. The scope of work also included ISP drawings, strand mapping, splice designs, and as-built documentation. All work was completed using in-house labor.

Township of Verona

Contacts: BOE - Dr. Earl Kim Superintendent
973-239-2100
ekim@veronaschools.org

Town - Jay Aloia, 973-857-4842

Project Description: The design/build of a 10.26 mile Private Fiber Network throughout the Township of Verona. The project connected (15) Municipal and (6) Board of Education buildings. The scope of work also included ISP drawings, strand mapping, splice designs, and as-built documentation. All work was completed using in-house labor.

Tenafly School District

Contacts: Robert Caputo, Technology Coordinator
rcaputo@tenafly.k12.nj.us

Project Description: The design/build of an 11.33 mile Private Fiber Network throughout the Township of Tenafly. Project connected (7) Board of Education facilities. Included in the scope of work were the following: ISP drawings, strand mapping, splice designs and as-built documentation. All work was completed using in-house labor.